STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENT
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April 16, 2010

Mr. Richard Karl
U.S. Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Mail Code: SE-5J
Chicago, Illinois 60604-3507

Dear Mr. Karl:

SUBJECT: Kalamazoo River Superfund Site – Allied Paper Operable Unit
Draft Supplemental Groundwater Investigation Report
October 2009

The Michigan Department of Natural Resources and Environment (DNRE) has concluded its review of the Supplemental Groundwater Investigation Report (report) dated October 2009 and received in December 2009 as an appendix to the draft Feasibility Study (FS), authored by Arcadis on behalf of Millennium Holdings, LLC. This report is the result of recommendations made to address questions regarding groundwater that may be emanating from the Allied Paper Operable Unit of the Kalamazoo River Superfund Site. The comments below represent input from the DNRE's Remediation and Redevelopment Division and its Water Bureau.

The objective of the report was to address the City of Kalamazoo's concern "that constituents present in the shallow groundwater at the Allied OU [Operable Unit] could impact the City's Central Well Field via groundwater migration." Further, that "should there be a direct flow path for groundwater from the Allied OU to the City's Central Well Field, the public water supply might be affected by these inorganic constituents [iron, manganese, and arsenic]. In general, the DNRE concurs with the following conclusions that resulted from the work conducted in June and July 2009 and that are provided in the report:

- "Portage Creek appears to be the primary influence on the configuration of the water table surface within the OU. In the main disposal area of the Allied OU, shallow groundwater discharges radially to Portage Creek."
- "...shallow groundwater is influenced, although not completely captured, by the creek."
- "Due to the upward pressure exerted by the groundwater present in the regional aquifer, the downward flow of groundwater from the surficial aquifer monitored at the Allied OU to the deeper regional aquifer is highly improbable."
- Various "...data [collected over time] illustrate hydraulic disconnection between the surficial aquifer unit and the regional aquifer unit.

However, one of the recommended investigation issues concerning inorganic constituents was not directly addressed by the investigation. Instead, the report concludes the following:

- "The results of the analysis of groundwater flow patterns, directions and gradients clearly support the RI [Remedial Investigation] Report conclusion that shallow groundwater at the Allied OU discharges to Portage Creek, and no additional data were obtained that suggest that there is a pathway to the regional aquifer used for the City Central Well Field. With this understanding, no further analysis was deemed necessary with respect to the distribution of inorganic constituents in onsite or offsite groundwater."

There are good reasons, as discussed by Arcadis in the report, why actual data were not collected in regard to inorganics for this recent investigative phase. Other sources in the area may have contributed to inorganic contamination and would confound interpreting data beyond the Allied site boundaries as it relates to drawing direct connections back to the Allied site.

Nonetheless, we believe it is important to note that, based on our technical review, the number and location of the wells that were evaluated for this report appear inadequate to rule out, to the degree of certainty that is implied in the report, the possibility that inorganic contaminants may have migrated beyond the influence of Portage Creek or that there be a component of groundwater flow to the northwest from the site toward the City's Central Well Field. The DNRE agrees that the additional information collected supports an already existing understanding of groundwater flow paths at the site. While we do not agree that all uncertainty has been addressed, we acknowledge that it is not feasible or necessary to eliminate all uncertainties when assessing groundwater conditions at contaminated sites.

The DNRE recommends the following course of action in response to groundwater questions that this latest investigation was intended to address. It is the DNRE's position that sufficient information exists to allow the United States Environmental Protection Agency (U.S. EPA) to make an informed remedial decision for the site. All information collected to date supports the main conclusion of the RI that the discharge of Portage Creek into the lower elevation of the Kalamazoo River is having an overwhelming influence on groundwater flow at and emanating from the site. In our view, any remaining uncertainty about groundwater conditions at the Allied Paper Operable Unit is not inconsistent with the level of uncertainty we commonly face in addressing similar sites. Our recommendation that sufficient information exists to make a remedial decision is based upon a degree of rigor in site characterization that is comparable to or greater than what is available for remedial decision making at sites where similar threats are being evaluated. The DNRE acknowledges the importance of this question due to the proximity of this disposal unit to a regional drinking water resource. It is for this reason the DNRE recommends that the FS plan for and cost out a long-term monitoring program that monitors groundwater trends over time. An enhanced network installation to the north and west will help to identify where possible institutional controls may be needed, serve to confirm over time that the conceptual site model is accurate, and demonstrate that the remedy remains protective. The monitoring network for any remedial options that include closure in place must be capable of assessing groundwater impacted by and possibly leaving the Allied site at multiple depths for multiple parameters, including inorganics.

Thank you for the opportunity to comment and for your consideration of the DNRE's recommendations. Please let me know if you have any questions in regard to the information or recommendations included in this letter, or please feel free to contact Mr. Paul Bucholtz, Superfund Section, in the Remediation and Redevelopment Division, at 517-373-8174.

Sincerely,

Jim Sygo, Deputy Director
Environmental Protection
517-241-7394

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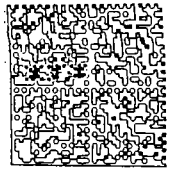

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